

Recombinant Histone H3K27me3 (MLA)

Catalog No: 31579, 31979

Expressed In: *E. coli*

Quantity: 100, 1000 µg

Concentration: 0.5 µg/µl

Source: Human

Buffer Contents: Recombinant Histone H3K27me3 (MLA) is supplied in 25 mM Tris-HCl, pH 7.4, 150 mM NaCl and 10% glycerol.

Background: Histone H3 is one of the core components of the nucleosome. The nucleosome is the smallest subunit of chromatin and consists of 146 base pairs of DNA wrapped around an octamer of core histone proteins (two each of H2A, H2B, H3 and H4). Histone H1 is a linker protein, present at the interface between the nucleosome core and DNA entry/exit points.

Recombinant Histone H3K27me3 (MLA) has been generated using the patented Methylated Lysine Analog (MLA) technology. In MLA, methylated histones are generated via a chemical alkylation reaction that substitutes a methylated analog of lysine, aminoethylcysteine, for the existing lysine at the desired residue. Aminoethylcysteine is structurally and chemically similar to lysine, though it contains a sulfide substitution in place of the lysine Y-methylene. The MLA technique provides precise control over the site and degree of methylation. The MLA technology is covered under U.S. Patent No. 8,278,112.

Protein Details: Recombinant human Histone H3 trimethyl Lys27 (H3K27me3) (accession number NP_003520.1) was expressed in *E. coli* cells and contains two substitutions (cysteine to serine at amino acid 96 and cysteine to alanine at amino acid 110). Recombinant methylated histones are specifically methylated via a chemical alkylation reaction that introduces a methyl lysine analog (MLA). The molecular weight of the protein is 15,285 Daltons. The recombinant histone is >92% pure by SDS-PAGE.

Application Notes: Recombinant histones are suitable for use as positive controls in the analysis of histone post- translational modifications, as substrates for histone modification enzymes, or to generate chromatin *in vitro*.

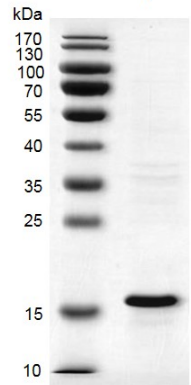
References:

This product was used in the following publications:

Nucleic Acids Res. (2019). Jun 5. pii: gkz493. PMID: 31165872. (Histone Demethylation Assay)

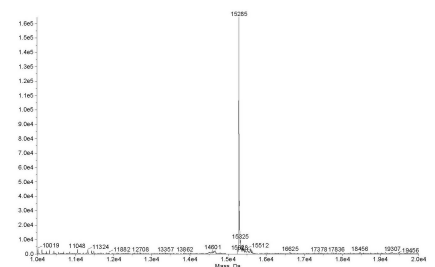
Storage and Guarantee: Recombinant proteins in solution are temperature sensitive and must be stored at -80°C to prevent degradation. Avoid repeated freeze/thaw cycles and keep on ice when not in storage. This product is for research use only and is not for use in diagnostic procedures. This product is guaranteed for 6 months from date of arrival.

H3K27me3 (MLA)



Recombinant Histone H3K27me3 (MLA) gel.

Histone H3K27me3 (MLA) was run on a 12.5% SDS- PAGE gel and stained with Coomassie Blue.



ESI-TOF Mass Spec analysis of Recombinant Histone H3K27me3 (MLA)

Expected mass: 15285 Da

Observed mass: 15285 Da